REMARKS

Favorable reconsideration of this application, in light of the following remarks, is respectfully requested.

Claims 1-3, 5-7, and 9-12 are pending in this application. No claims are amended or added and no additional claims are cancelled. Claims 1, 5 and 9 are the independent claims.

Rejection under 35 U.S.C. § 103

Claims 1-3, 5, and 9-12 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Piirainen (U.S. Patent No. 6,748,031, hereinafter Piirainen) in view of Kim et al. (U.S. Patent No. 6,868,112, hereinafter Kim). Applicants respectfully traverse this rejection for the reasons detailed below.

Piirainen fails to teach or suggest at least "generating an overall channel estimate by obtaining a *weighted* average of a plurality of channel estimates" as recited in claim 1 and as similarly recited in claims 5 and 9. On pages 3, 4, and 5 of the Office Action, the Examiner admits that Piirainen fails to teach the 'average' as a 'weighted average'.

Kim discloses a channel estimator that includes "a slot channel estimator for filtering the pilot symbol to estimate the channel gain, and obtaining the weighted average of the channel estimates of several slots to produce the channel estimate of the slot through a linear interpolation circuit for subjecting the channel estimate from the slot channel estimator to linear interpolation to produce the channel estimate of each transmission symbol." Kim, column 6, lines 35-43. Further, in estimating the channel gain of the symbol, more weight is put "on the channel estimate of the previous slot in the leading half of the slot, while more weight on the channel estimate of the present slot in the trailing half of the slot." Id., column 7, lines 56-60.

In other words, <u>Kim</u> discloses producing the average *channel estimate of each transmission symbol of a single slot* by obtaining a weighted average of the channel estimates of several slots rather than "generating an *overall channel estimate* by obtaining a weighted average of a plurality of channel estimates" as recited in claim 1 and as similarly recited in claims 5 and 9.

In addition, <u>Kim</u> discloses producing the average channel estimate of each symbol by the following equation: $h\hat{}(n,k) = \beta\ h\hat{}(n,\ k-1) + (1 - \beta)h(n,k)$, wherein $h\hat{}(n,\ k-1)$ is the average channel estimate, $h(n,k)$ is the average channel estimate of the present symbol, and β is a coefficient limiting the accumulated number of the channel estimates of the symbols used in the average. <u>Id.</u>, column 8, lines 13-22. Thus, <u>Kim</u> discloses producing the average channel estimate of each symbol based upon a single weighting constant rather than "generating an overall channel estimate by obtaining a weighted average of a plurality of channel estimates,...and each of the plurality of channel estimates having an associated weighting constant, at least two of the weighting constants being different" as recited in claim 1 and as similarly recited in claims 5 and 9 (See also Equation (9), page 9 of the present specification).

Therefore, even if <u>Kim</u> were combined with <u>Piirainen</u>, <u>Piirainen</u> in view of <u>Kim</u> can not render claims 1, 5, and 9 obvious to one skilled in the art.

Claims 2-3, and 10-12, dependent on independent claims 1, 5, and 9, are patentable for the reasons stated above with respect to claims 1, 5, and 9, as well as for their own merits.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection to independent claims 1, 5, and 9, and all claims dependent upon them.

Allowable Subject Matter

Applicants appreciate that claims 6 and 7 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. However, it is submitted that claims 6 and 7 are presently allowable in view of the previous remarks.

CONCLUSION

In view of the above remarks and amendments, the Applicants respectfully submit that each of the pending objections and rejections has been addressed and overcome, placing the present application in condition for allowance. A notice to that effect is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to contact the undersigned.
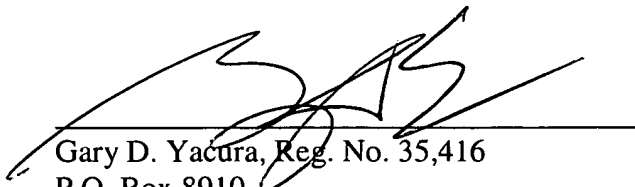
Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Gary D. Yacura, at the telephone number of the undersigned below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

HARNESS, DICKEY, & PIERCE, P.L.C.

By

Gary D. Yacura, Reg. No. 35,416
P.O. Box 8910
Reston, Virginia 20195
(703) 668-8000

GDY/TSW:ald